AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Originally Presented) A network unit which includes:

a look-up engine for performing an address look-up in response to a key including a network address pair in a packet to obtain forwarding data for said packet;

means for monitoring conversations defined by network address pairs in packets received by the unit to obtain measures of traffic flow for said conversations;

a cache memory for storing entries accessible by network address pairs and enabling forwarding data to be obtained for entries in the cache; and

a cache controller operative:

(i) to cause in response to a look-up request a determination whether the address pair in a packet is held in the cache;

(ii) to allow the look-up engine to perform the address look-up when the address pair in said packet is not held in the cache; and

(iii) to update said cache so as to displace entries associated with relatively low measures of traffic flow by entries associated with relatively high measures of traffic flow.

2. (Originally Presented) A network unit according to claim 1 wherein the cache controller is operative, when the address pair of the packet is not held in the cache, to compare the measure of traffic flow with a threshold and to insert the address pair as a new entry in the cache if the measure exceeds the threshold and is operative when the address pair of the packet is held in the cache to determine whether the said measure exceeds said threshold and thereupon to increase said threshold.

3. (Originally Presented) A network unit according to claim 2 wherein the cache controller is operative to remove the entry associated with the least measure of traffic flow when inserting said new entry.

4. (Originally Presented) A network unit according to claim 1 wherein said look-up engine is organized to perform a trie search.

5. (Originally Presented) A network unit which includes:

a look-up engine for performing an address look-up in response to a key including a network address pair in a packet to obtain forwarding data for said packet;

means for monitoring conversations defined by network address pairs in packets received by the unit to obtain measures of traffic flow for said conversations;

a cache memory for storing entries accessible by network address pairs and enabling forwarding data to be obtained for entries in the cache; and

a cache controller operative:

(i) to cause in response to a look-up request a determination whether the address pair in a packet is held in the cache;

(ii) to allow the look-up engine to perform the address look-up when the address pair in said packet is not held in the cache;

(iii) when the address pair of the packet is not held in the cache, to compare the measure of traffic flow with a threshold and to insert the address pair as a new entry in the cache if the measure exceeds the threshold; and

(iv) when the address pair of the packet is held in the cache, to determine whether the said measure exceeds said threshold and thereupon to increase said threshold.

6. (Originally Presented) A network unit according to claim 5 wherein the cache controller is operative to remove the entry associated with the least measure of traffic flow when inserting said new entry.

7. (Originally Presented) A network unit according to claim 5 wherein said look-up engine is organized to perform a trie search.

8. (New) A method for operating a network unit, which method includes:

performing an address look-up in response to a key including a network address pair in a packet to obtain forwarding data for said packet;

monitoring conversations defined by network address pairs in packets received by the unit to obtain measures of traffic flow for said conversations;

storing entries in a cache memory that one accessible by network address pairs and enabling forwarding data to be obtained for entries in the cache;

causing, in response to a look-up request, a determination whether the address pair in a packet is held in the cache;

performing an address look-up when the address pair in said packet is not held in the cache; and

updating said cache so as to displace entries associated with relatively low measures of traffic flow by entries associated with relatively high measures of traffic flow.

9. (New) A method as in claim 8 wherein:

when the address pair of the packet is not held in the cache, comparing the measure of traffic flow with a threshold and inserting the address pair as a new entry in the cache if the measure exceeds the threshold and

when the address pair of the packet is held in the cache, determining whether the said measure exceeds said threshold and thereupon to increase said threshold.

10. (New) A method as in claim 9 wherein:

an entry associated with the least measure of traffic flow is removed when inserting said new entry.

11. (New) A method as in claim 8 wherein a trie search is performed.

12. (New) A method for operating a network unit, which method includes:

performing an address look-up in response to a key including a network address pair in a packet to obtain forwarding data for said packet;

monitoring conversations defined by network address pairs in packets received by the unit to obtain measures of traffic flow for said conversations;

storing entries in a cache memory that are accessible by network address pairs and enabling forwarding data to be obtained for entries in the cache;

in response to a look-up request, causing a determination whether the address pair in a packet is held in the cache and, if not, then performing an address look-up;

when the address pair of the packet is not held in the cache, comparing the measure of traffic flow with a threshold and to insert the address pair as a new entry in the cache if the measure exceeds the threshold; and

when the address pair of the packet is held in the cache, determining whether the said measure exceeds said threshold and thereupon to increase said threshold.

13. (New) A method as in claim 12 wherein the entry associated with the least measure of traffic flow is removed when inserting said new entry.

14. (New) A method as in claim 12 wherein a trie search is performed.